

THROMBOLYSIS DEVICE

ABSTRACT OF THE DISCLOSURE

The present invention describes a catheter suitable for introduction into a tubular tissue for dissolving blockages in such tissue. The catheter is particularly useful for removing thrombi within blood vessels. In accordance with the preferred embodiments, a combination of vibrating motion and injection of a lysing agent is utilized to break up blockages in vessels. The vessels may be veins, arteries, ducts, intestines, or any lumen within the body that may become blocked from the material that flows through it. As a particular example, dissolution of vascular thrombi facilitated by advancing a catheter through the occluded vessel, the catheter causing a vibrating, stirring action in and around the thrombus usually in combination with the dispensing of a thrombolytic agent such as urokinase into the thrombus. The catheter has an inflatable or expandable member near the distal tip which, when inflated or expanded, prevents the passage of dislodged thrombus around the catheter. The dislodged portions of thrombus are directed through a perfusion channel in the catheter, where they are removed by filtration means housed within the perfusion channel before the blood exists the tip of the catheter. Catheters that allow both low frequency (1-100Hz) vibratory motion and delivery of such agents to a blockage and a method for using such catheters are disclosed.

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